1879

Catalogue of the Maine State College of Agriculture and the Mechanic Arts, Orono, Maine, January, 1880

University of Maine - Main

CATALOGUE

OF THE

Maine State College of Agriculture

AND THE

MECHANIC ARTS,

ORONO, MAINE, JANUARY, 1880.

AUGUSTA:
E. F. PILLSBURY & CO., STATE PRINTERS.
1879.

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STATE COLLEGE OF AGRICULTURE

AND THE

MECHANIC ARTS.

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President.

HON. LYNDON OAK, GARLAND.
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HON. STEPHEN L. GOODALE, SACO.
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EXECUTIVE COMMITTEE:
HON. WILLIAM P. WINGATE.
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REV. CHARLES F. ALLEN, D.D.
REV. SAMUEL F. DIKE, D.D.

*Deceased.

FACULTY.

MERRITT C. FERNALD, A. M.,
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ALFRED B. AUBERT, B. S.,
Professor of Chemistry.

WILLIAM A. PIKE, C. E.,
Professor of Engineering and Secretary of the Faculty.

CHARLES H. FERNALD, A. M.,
Professor of Natural History.

GEORGE H. HAMLIN, C. E.,
Professor of Mathematics and Drawing, and Librarian.

ALLEN E. ROGERS, A. M.,
Instructor in Modern Languages and Military Science.

WHITMAN H. JORDAN, B. S.,
Instructor in Agriculture.

TIMOTHY G. RICH,
Farm Superintendent.

WILBUR F. DECKER, B. M. E.,
Instructor in Vise-work and Forge-work.

HENRY M. LANDER,
Steward.

STUDENTS.

POST GRADUATES.

Ferguson, Willis Edwin, B. S.,	Bangor.
Morse, Charles Adelbert, B. C. E.,	Bangor.

SENIOR CLASS.

Atwood, Horace Wood,	Northbridge, Mass.
Bartlett, James Monroe,	Litchfield.
Brown, Albert Hinckley,	Oldtown.
Davis, Marcia,	Stillwater.
Elliott, Fred Burton,	Bowdoin.
Farrington, Sarah Perkins,	Orono.
Fernald, Charles Wilbur,	South Levant.
Fickett, Fred Wilden,	Etna.
Lufkin, George William,	North Yarmouth.
Mansfield, Frank Albert,	Camden.
Matthews, Annie Amelia,	Stillwater.
Murray, Henry Wilson,	Solon.
Patten, Franklin Rand,	Hampden.
Pease, Charles Truman,	Bridgton.
Purinton, James Frank,	Bowdoin.

JUNIOR CLASS.

Andrews, Henry Harris,	Norway.
Boynton, Lorin Thompson,	Ashland.
Brown, Henry William,	Calais.
Buck, Clara Louise,	Stillwater.
Colburn, Fannie Eliza,	Orono.
Farrington, Edward Holyoke,	Orono.
Farrington, Oliver Cummings,	Orono.
Fogg, Charles Henry,	Biddeford.
Ingalls, Aldana Theodore,	South Bridgton.
Libby, Clara Alice,	Orono.
McIntyer, Horace Flanders,	Waldoboro.'
Moor, Charles Lincoln,	Hartland.
Murray, Benjamin Franklin,	Solon.
Pease, Oscar Leroy,	Stillwater.
Plaisted, Harold Mason,	Bangor.
Ring, Alice Isabel,	Orono.
Ring, May Lilian,	Orono.
Smith, Roscoe Loring,	East Orrington.
Sturtevant, George Washington,	Bowdoinham.
Tidd, Charles Plummer,	Springfield.
Wade, Frank Swan,	Athens.
Weeks, Frank Benjamin,	Orono.
White, Walter Adelbert,	Greenfield.
Wilson, George Henry,	Orono.
Wilson, John Barrows,	Orono.
Wyman, Levi Augustus,	Ellsworth.

SOPHOMORE CLASS.

Bartlett, Joshua Burr,	Ashland.
Bickford, Charles Swan,	Belfast.
Boynton, Jacob Leighton,	Ashland.
Brown, Charles Weston,	Hampden.
Buzzell, Stephen Jennings,	Argyle.
Chapin, Charles Edward,	Orrington.
Dunn, Charles Lincoln,	Ashland.
Dunton, Oscar Howard,	Hampden.
Flint, Walter,	West Baldwin.
Fuller, George Ripley,	Tremont.
Garland, Charles Clinton,	West Great Works.
Gould, Joseph French,	Stillwater.
Greenlaw, John Irving,	Brownfield.
Howard, Will Russell,	Belfast
Hurd, Alonzo L.,	Brownfield.
Jameson, Wesley Joseph,	Warren.
Johnson, Robert John,	Portland.
Keith, Alfred Justin,	Oldtown.
Kelleher, Bartholomew Patrick,	Orono.
Keniston, Frederic Andrew,	Ellsworth.
Kimball, Frank Issacher,	Alfred.
Nason, Walter Herbert,	Hampden.
Osborn, Edwin Winthrop,	Pembroke.
Page, Parker James,	Orono.
Patten, James Herbert,	Newport.
Reed, Frederic Martin,	Bangor.
Snow, Gleason Cyprian,	North Orrington.
Starrett, Avery Palmer,	Warren.
Tilley, Lewis Kossuth,	Castle Hill.
Todd, Frank Herbert,	Georgetown.
Webster, Eben Crowell,	Orono.
Wight, Willard Alberto,	Winsdor.
Woodward, Daniel Carr,	Winthrop.

FRESHMAN CLASS.

Cain, James Henry,	Orono.
Cilley, Jonathan Vernet,	Rockland.
Currier, George Russell,	Wilton.
Drummond, Arthur T.,	North Sidney.
Emery, Frank Edwin,	Canaan.
Emery, William Edward,	Hampden.
Fernald, Arthur Liddell,	South Levant.
Kelsea, Norman Fay,	Belfast.
Lander, Edward Fuller,	Solon.
Longfellow, Henry Whitney,	Machias.
Merrill, Lucius Herbert,	Auburn.
Michaels, Jennie Chase,	Stillwater.
Patten, Truman Miller,	Hermon.
Powers, Harry Wilson,	Orono.
Rich, George Avery,	Orono.
Robinson, Lewis Jr.,	Hampden.
Sutton, George Arthur,	Orono.
Starbird, Ralph,	Fairfield.
Taylor, Levi William,	Jay.
Ulmer, Ralph Rising,	Rockland.
Webster, Frank Carl,	Bangor.
Webster, Frank Gilman,	Orono.

SPECIAL COURSE.

Hatch, William Ham,	Lisbon.
Kendall, Edwin Perdy,	Bowdoinham.
Murray, Charles Sumner,	Stillwater.
Nutter, Atta L.	Dexter.

SUMMARY.

Post Graduates,	2		
Seniors,	15	Special,	4
Juniors,	26		—
Sophomores,	33	Total,	102
Freshmen,	22		

OFFICERS OF THE COBURN CADETS.

MAJOR—A. E. ROGERS. ADJUTANT—H. W. BROWN.

COMPANY A.	COMPANY B.
Captain, C. L. Moor.	Captain, H. H. Andrews.
Senior 1st Lieutenant, L. T. Boynton.	Senior 1st Lieutenant, W. A. White.
Junior 1st Lieutenant, F. S. Wade.	Junior 1st Lieutenant, B. F. Murray.
Second Lieutenant, R. L. Smith.	Second Lieutenant, G. H. Wilson.
1st Sergeant, E. H. Farrington.	1st Sergeant, F. B. Weeks.
2d Sergeant, C. H. Fogg.	2d Sergeant, J. B. Wilson.
3d Sergeant, F. I. Kimball.	3d Sergeant, A. J. Keith.
4th Sergeant, W. Flint.	4th Sergeant, J. L. Boynton.
1st Corporal, W. H. Nason.	1st Corporal, W. R. Howard.
2d Corporal, D. C. Woodward.	2d Corporal, F. M. Reed.
3d Corporal, A. P. Starrett.	3d Corporal C. W. Brown.
4th Corporal, J. B. Bartlett.	4th Corporal, A. L. Hurd.

ARTILLERY OFFICERS.

Captain, C. T. Pease.	Sergeant, C. W. Fernald.
Lieutenant, G. W. Lufkin.	Corporal, F. W Fickett.

PRIZES FOR 1879.

Coburn Prize for best Sophomore Declamation, awarded to H. W. Brown.

Coburn Prize for best Junior Essay, awarded to F. A. Mansfield.

DESIGN OF THE INSTITUTION.

It is the design of the Maine State College of Agriculture and the Mechanic Arts, to give the young men of the State who may desire it, at a moderate cost, the advantages of a thorough, liberal and practical education. It proposes to do this by means of the most approved methods of instruction, by giving to every young man who pursues the course of study an opportunity practically to apply the lessons he learns in the class-room, and by furnishing him facilities for defraying a part of his expenses by his own labor.

By the act of Congress granting public lands for the endowment and maintenance of such colleges, it is provided that the leading object of such an institution shall be, "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts."

While the courses of study fully meet this requisition, and are especially adapted to prepare the student for agriculture and mechanical pursuits, it is designed that they shall be also sufficiently comprehensive, and of such a character, as to secure to the student the discipline of mind and practical experience necessary for entering upon other callings or professions.

CONDITIONS OF ADMISSION.

Candidates for admission to the Freshman class must be not less than fifteen years of age, and must pass a satisfactory examination in Arithmetic, Geography, English Grammar, (especial attention should be given to Orthography, Punctuation and Capitals) History of the United States, Algebra as far as Quadratic Equations, and five books in Geometry.

Although the knowledge of Latin is not required as a condition of admission, yet the study of that language is earnestly recommended to all who intend to enter this institution.

Candidates for advanced standing must sustain a satisfactory examination in the preparatory branches, and in all the studies previously pursued by the class they propose to enter.

Satisfactory testimonials of good moral character and industrious habits will be rigidly exacted. They should be presented on the day of examination.

The day after Commencement, which is the last Wednesday of June, and the day of the beginning of the first term, are the appointed times for the examination of candidates.

COURSES OF INSTRUCTION.

Five full courses are provided, viz: A Course in Agriculture, in Civil Engineering, in Mechanical Engineering, in Chemistry and in Science and Literature.

The studies of the several courses are essentially common for the first two years and are valuable not only in themselves but also as furnishing a necessary basis for the more technical studies and the practical instruction of the Junior and Senior years.

Physical Geography, taught in the first term of the Freshman year serves as a suitable introduction to Geology which is taken up later in each of the courses. Physiology serves as an introduction to Comparative Anatomy, and Algebra, Geometry and Trigonometry are needful preliminaries to the higher mathematics and the practical applications required in Surveying, Engineering proper, and Astronomy. Botany, Chemistry and Physics are highly important branches common to all the assigned courses and hence taken by all the students who are candidates for degrees.

Rhetoric, French and English Literature form the early part of a line of studies which later includes German, Logic, History of Civilization, U. S. Constitution, Political Economy and Mental and Moral Science, branches several of which relate not more to literary culture than to social and civil relations and to the proper preparation for the rights and duties of citizenship.

Composition and Declamation are regular exercises in all the courses throughout the four years. For the characteristic features of each course reference is made to the explanatory statements following the several schemes of study.

SPECIAL COURSES.

Students may be received for less time than that required for a full course, and they may select from the studies of any class such branches as they are qualified to pursue successfully. Students in Special Courses are not entitled to degrees, but may receive certificates of proficiency.

DEGREES.

The full course in Civil Engineering entitles to the Degree of Bachelor of Civil Engineering; the full course in Mechanical Engineering, to the Degree of Bachelor of Mechanical Engineering; the full course in Agriculture, Chemistry, or Science and Literature, to the Degree of Bachelor of Science.

Three years after graduation, on presentation of a satisfactory thesis with the necessary drawings, and proof of professional work or study, the Bachelors of Civil Engineering may receive the Degree of Civil Engineer; the Bachelors of Mechanical Engineering, the Degree of Mechanical Engineer; the Bachelors of Science, the Degree of Master of Science.

COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*
Physical Geography.	Rhetoric and Botany.
Physiology.	Algebra and Geometry.
Algebra.	French.
P. M. Labor on Farm.	P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.	*Second Term.*
Botany, Horticulture and Arboriculture.	English Literature and Surveying or (L) History of England.
General Chemistry.	Physics.
French.	Qualitative Chemistry.
Trigonometry.	P. M. Mechanical Drawing.
P. M. Free Hand Drawing.	Field Work and Forge Work.†

THIRD YEAR.

First Term.	*Second Term.*
Farm Drainage, Mechanical Cultivation of the Soil and Physics.	Organic Chemistry and Principles of Plant Feeding.
Agricultural Chemistry.	Zoology and Entomology.
Mechanics, Agricultural Engineering and Farm Implements.	German.
*American Literature.	P. M. Laboratory Work and Experimental Farming or *Analysis of English Authors.
German.	
P. M. Laboratory Work or *Analysis of American Authors.	

FOURTH YEAR.

First Term.	*Second Term.*
Landscape Gardening, Stock Breeding and Veterinary Science.	Cultivation of Cereals, Care and Feeding of Animals, Dairy Farming and Sheep Husbandry.
Comparative Anatomy.	Mineralogy and Geology.
History of Civilization.	U. S. Constitution and Political Economy.
Logic.	Mental and Moral Science.
P. M. Experimental Farming and Agricultural Botany or *Historical Readings and Analysis.	

†Elective with a part of the Mechanical Drawing.
*To be taken in Course in Science and Literature in place of study preceding.

EXPLANATORY STATEMENTS.

This course is designed to fit young men to follow agriculture, as a profession, with success, as well as to prepare them for the intelligent performance of the duties of citizenship.

To this end, the curriculum of studies is largely scientific and technical, not omitting, however, those branches that have been referred to as pertaining to social and civil relations.

The instruction in agriculture is given largely by lectures, and embraces subjects of great practical importance to the farmer which are briefly explained under the following heads:

Mechanics and Farm Implements.— Combined with recitations in mechanics from a text-book, lectures are given on the principles of construction and use of farm implements, illustrated by charts to the extent possible.

Agricultural Engineering.— The construction of roads, culverts and masonry and the strength of materials are the principal topics treated under this head.

Mechanical Cultivation of the Soil.— This includes soil physics, or the relations of the soil to heat and moisture, the mechanical conditions of the soil best adapted to plant growth, and the objects to be gained by cultivation.

Principles of Plant Feeding. — Under this head are considered the various methods of retaining and increasing the fertility of the soil, the sources, composition and methods of valuation of commercial and farm manures, together with the principles governing their treatment and application.

Landscape Gardening. — The object of this study is to furnish correct notions of the manner of laying out and beautifying grounds.

Cultivation of Cereals. — Lectures are given upon the best methods of cultivating the principal farm crops.

Care and Feeding of Animals. — This subject includes the composition of cattle foods, their changes and uses in the animal system, and the value and economic use of the various kinds.

Dairy Farming. — This embraces the chemical and physical properties of milk and the principles and practical operations that underlie its production and manufacture into butter and cheese.

Sheep Husbandry.— The characteristics and comparative merits of our different breeds of sheep are discussed, also their adaptability to different conditions and uses.

Botany, Horticulture and Arboriculture.—Following recitations and practical work in Botany, lectures are given upon fungi injurious to the farmer, and upon the principles of fruit and forest culture.

Chemistry.—One term is devoted to General Chemistry, one term to Agricultural Chemistry, one half-term to Organic Chemistry, and the afternoons of several terms are devoted to laboratory practice, including analyses of farm products.

Zoölogy and Entomology.—In Zoölogy, the larger groups of the animal kingdom are taken up and described in lectures which are illustrated by means of diagrams, models, or the objects themselves, and the students are required to make critical studies of typical animals of each group. Such laboratory practice is regarded an indispensable training for the more advanced study of the higher animals, and also forms the basis of the study of Historical Geology.

The studies in Entomology are conducted in a similar manner. After a general review of the orders has been given, illustrated by such common insects as are familiar to all, the beneficial and injurious are taken up more in detail, their round of life described, together with the injuries they do to the products of the farmer, the gardener, and the fruit-raiser, as well as to our forests and building materials, and the best known means of keeping them in check. For the purpose of making the instruction as practical and impressive as may be, many of the injurious insects are carried through their transformations in the class-room, where each student can note the various changes from day to day, and learn to recognize these insect enemies in any stage of their existence; and each member of the class is required to devote some time in field-collecting, and in observing the habits and work of insects in nature.

The subject of Bee-Keeping is taken up quite at length; the different kinds of bees in a swarm, their habits, anatomy, and the mode of collecting the different products, are all described and illustrated by means of elaborate models, while artificial swarming, the mode of hybridizing a swarm, and the advantages of the same, with the most approved methods now in use for the care and management of bees, are also fully described.

Comparative Anatomy.—Under Comparative Anatomy are taken up the anatomy and physiology of our domestic animals,

together with a brief outline of our wild animals so far as time permits. This is followed by a course of illustrated lectures on Stock Breeding and Veterinary Science.

Mineralogy and Geology.—A preliminary course of lectures is given on Mineralogy, followed by laboratory practice in the determination of minerals, and in lithology, special attention being called to gypsum, limestone, and such other minerals as are of direct importance to the student of agriculture.

The instruction in Geology is by means of illustrated lectures and excursions, critical attention being given to the origin and formation of soils.

Law.—A course of lectures is given to the Senior class on International and Rural Law.

Throughout the course, the endeavor is made to inculcate established principles in agricultural science, and to illustrate and enforce them to the full extent admitted by the appliances of the laboratory and the farm. So far as possible, students are associated with whatever experimental work is carried on, that they may be fitted to continue such work in after life.

Those who complete this course receive instruction also in Mathematics, French, German, English Literature, Logic, United States' Constitution, Political Economy, and Mental and Moral Philosophy, and on presenting satisfactory theses upon some agricultural topic, are entitled to the degree of Bachelor of Science.

The Course in Science and Literature includes French and German, the general, mathematical and most of the scientific studies of the agricultural course. Instead of certain branches quite purely technical in the latter course, History and English and American Literature are substituted.

In the special laws of the State, passed in 1872, it is provided that young ladies "who possess suitable qualifications for admission to the several classes, may be admitted as students in the college."

In arranging the course in Science and Literature reference has been had to this enactment. From this course, however, young men who desire it, are not excluded as, on the other hand, young ladies are not excluded from any of the other courses.

COURSE IN CIVIL ENGINEERING.

FIRST YEAR.

First Term.	*Second Term.*
Algebra.	Algebra and Geometry.
Physical Geography.	Rhetoric and Botany.
Physiology.	French.
P. M. Labor on Farm.	P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.	*Second Term.*
Trigonometry.	Analytical Geometry and Calculus.
Botany, Horticulture and Arboriculture.	English Literature and Surveying.
General Chemistry.	Physics.
French.	P. M. Mechanical Drawing and Field Work.
P. M. Free-Hand Drawing.	

THIRD YEAR.

First Term.	*Second Term.*
Henck's Field Book.	Mechanics.
Calculus.	Descriptive Geometry.
Physics.	Descriptive Astronomy.
German.	German.
P. M. Field Work and Drawing.	P. M. Isometric and Cabinet Projection and Perspective.

FOURTH YEAR.

First Term.	*Second Term.*
Civil Engineering.	Civil Engineering, Designs and Specifications.
Stereotomy.	Mineralogy and Geology.
Practical Astronomy.	U. S. Constitution and Political Economy.
Logic.	P. M. Machine Drawing and Designing.
P. M. Topography and R. R. Work,	

EXPLANATORY STATEMENTS.

The object of this course is to give the student a thorough knowledge of Higher Mathematics, Mechanics, Astronomy and Drawing, and at the same time a thorough drill in the use of instruments and in the application of mathematical principles and rules, so that the graduate can, at once, be made useful in engineering work and be fitted after a limited amount of experience, in the field, to fill positions of importance and trust. The course is also arranged so as to afford the education required to prepare the graduate for a responsible position among *men*, as well as among engineers. In this course the work is the same as for other courses until the second term of the second year, when Analytical Geometry is substituted for Qualitative Chemical Analysis.

In the first term of the third year Henck's Field Book is used as a text book, from which the student obtains methods of running railroad curves, calculation of earthwork, &c. This is supplemented by many examples, worked by the student, and by lectures on preliminary and final surveys and on the resistance to trains offered by curves and grades. The subject of Mechanics is taken up the last term of this year, in which the students receive a thorough training in the principles underlying construction, illustrated as far as may be, with the limited knowledge of construction then possessed by the student, by practical examples in which these principles are applied. Most of the time is given to Statics as being the branch of Mechanics most applicable to Civil Engineering, enough of Dynamics being taught to meet the requirements of the civil engineer. During the Senior year Rankine's Civil Engineering is the text book, though other works are used for reference. Beside these much material is given in the forms of lectures and notes on the blackboard. In the first term of this year the principles of the strength of materials are taken up, supplemented by information as to durability and fitness for special purposes. Also this term the theories of ties, struts, beams, retaining walls, buttresses and arches are fully treated, and are impressed upon the mind of the student by examples, requiring their application. The first part of the last term of this year is devoted to the theory of roof and bridge trusses, lectures on locomotives and their application to various sorts of traffic; while the greater part is given to the application of the principles al-

ready obtained, to the designing and calculation of various engineering structures, and to the making out of estimates and specifications. In all this work much is done in the way of application of graphical methods, requiring notes, &c., not found in the text book used.

DRAWING AND FIELD WORK.

The course in drawing is commenced the first term of the Sophomore year. During this term the whole class is engaged one hour each day in Free-Hand Drawing; the first ten weeks being devoted to "Bartholemew's Series in Free-Hand Drawing," after which a short course in model and object drawing is given, together with the elements of perspective.

The second term of this year the entire class is engaged two and one-half hours a day in the drawing room, on general problems in Mechanical Drawing and elementary Geometrical Projection. The last part of this term is devoted to drawing from dimensions, tinting, shading, and making plots of surveys made by the students themselves.

The first term of the third year, the students in this course are taught line shading and detail drawing from dimensions given them, or taken from actual structures by themselves. In the second term of the third year, isometric and cabinet projection and perspective are taught by means of lectures and problems drawn by the student.

During the Senior year the time for drawing is devoted to work on locomotive details, topography, plans, profiles and sections in connection with their railroad work and designs made by themselves.

FIELD WORK.

Six weeks of the spring term are devoted to Practical Surveying by the Sophomore class, where they work two and a half hours each day, becoming familiar with the use and care of instruments, putting into practice the problems found in their text book and making detailed surveys of farms, roads and house lots

During the fall term the Juniors work in the field two hours and a half a day, laying out the various railroad curves, putting in turnouts and frogs, levelling and setting slope stakes. The Seniors devote this term to railroad engineering and topographical

surveying. In the railroad work the students survey a line about two miles long, determining line and grades from the conditions given them; which are, termini, way stations, use of road and financial condition of company. They finally make estimates of cost of building and equipping the road.

MINERALOGY AND GEOLOGY.

Mineralogy is taught by an introductory course of lectures followed by laboratory practice in the determination of minerals and rocks, especial attention being given to their value for building purposes. This is immediately followed by a course of lectures in Geology, together with excursions for the purpose of studying the rocks *in situ*, and also superficial deposits. Critical examinations are made in various railroad cuts, of the hardness, slaty structure, jointed structure, etc., as bearing upon the cost of excavation.

ASTRONOMY.

In the latter part of the spring term, Descriptive Astronomy is taken by the students in Civil and Mechanical Engineering, of the Junior class, and Practical Astronomy, during the larger part of the term following.

The course in Astronomy is designed to enable students to determine with accuracy, geographical positions. The principal instruments employed are chronometer, sextant, transit, and for work of precision, the Repsold vertical circle, an instrument made in Hamburg, Germany, in 1874, for this institution. Practical instruction is given in the use of these instruments and in the most approved methods of reducing observations for the determination of latitude and longitude.

The other studies taken in this course either need no special explanation or are fully explained elsewhere.

The work in this department is concluded by the presentation of a satisfactory thesis, by each student, on some engineering subject, which is required as a condition of graduation.

DEGREES.

Students in this department secure the degree of Bachelor of Civil Engineering on graduating, with the full degree of Civil Engineer three years after on presentation of a satisfactory thesis with proof of professional work or study.

COURSE IN MECHANICAL ENGINEERING.

FIRST YEAR.

First Term.	*Second Term.*
Algebra.	Algebra and Geometry.
Physiology.	Rhetoric and Botany.
Physical Geography.	French.
P. M. Labor on Farm.	P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.	*Second Term.*
Trigonometry.	Analytical Geometry and Calculus.
French.	English Literature and Surveying.
General Chemistry.	Physics.
Botany, Horticulture and Aboriculture.	P. M. Mechanical Drawing.
P. M. Free Hand Drawing.	Field Work and Forge Work.

THIRD YEAR.

First Term.	*Second Term.*
Machinery and Mill Work.	Machinery and Mill Work.
Calculus.	Descriptive Geometry.
Physics.	Descriptive Astronomy.
German.	German.
P. M. Shop Work and Machine Drawing.	P. M. Isometric and Cabinet Projection and Perspective.

FOURTH YEAR.

First Term.	*Second Term.*
Prime Movers.	Steam Engine, Designs and Specifications.
Practical Astronomy.	Mineralogy and Geology.
Logic.	U. S. Constitution and Political Economy.
P. M. Applied Descriptive Geometry and Machine Drawing.	P. M. Machine Drawing and Designing.

EXPLANATORY STATEMENTS.

It is the design of this course to give such a knowledge of Mathematics, Mechanics, Principles of Mechanism, Drawing and Manual Art as shall enable the student successfully to enter practical life as an engineer, with the same thorough education in subjects required to fit him for the general duties of life, as is afforded by the other courses.

The first two years' work is identical with that of the students in Civil Engineering, except that forge work is taken the second term of the second year. In the Junior year, Rankine's Machinery and Mill Work is the text-book used. The first term is devoted to the geometry of machinery, showing the student how different motions may be obtained, independently of the power required. Special attention is here given to the subject of gearing, and a full set of problems worked out, illustrating cases commonly occurring in practice. In the second term of this year the time is given to dynamics and the laws of the strength of materials.

In the Senior year Rankine's Prime Movers, Goodeve's Steam Engine and Mark's Proportions of the Steam Engine are the text-books used. During the first term, with Rankine's work as a basis, instruction is given on the prime movers in common use, illustrated by numerous problems in which students are required to work out the important dimensions of motors to suit certain specified conditions. The second term is devoted to the steam engine and the calculation and design of machines, engines, &c.

SHOP WORK.

There are now two shops equipped according to the Russian system and work in these is required of all students in this course. In the second term of the Sophomore year a course in forge-work is given, in which the student becomes familiar with the methods in use in actual construction. A similar course in vise-work is given during the first term of the Junior year, in which a corresponding knowledge is obtained. It is the intention to add more shops at the earliest possible moment. It should be understood that it is the object in these shops to teach operations in use in a number of trades rather than the details of any one trade.

DRAWING.

The work in drawing is the same for the first two years as has been described under the course in Civil Engineering. The first term of the Junior year the student gives the time not required for shop-work to line shading and drawing from dimensions taken by him from actual machines.

The second term of this year is devoted to isometric and cabinet projection and perspective. The time for drawing in the Senior year is given to drawing from dimensions, from locomotive details and to designs by the students, of machines, engines, &c.

The remarks under course in Civil Engineering, with regard to Astronomy, Mineralogy and Geology apply also to this course and to them reference is made.

Theses are required of all students as a condition of graduation, and must be on some subject directly connected with Mechanical Engineering.

Students in this course receive the degree of Bachelor of Mechanical Engineering upon graduation, with the full degree of Mechanical Engineer three years afterward, upon presentation of a satisfactory thesis and proof of professional work or study.

COURSE IN CHEMISTRY.

FIRST YEAR.

First Term.	*Second Term.*
Physical Geography.	Rhetoric and Botany.
Physiology.	Algebra and Geometry.
Algebra.	French.
P. M. Labor on Farm.	P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.	*Second Term.*
General Chemistry.	Qualitative Chemistry.
Botany, Horticulture and Arboriculture.	Physics.
French.	English Literature and Surveying.
Trigonometry.	P. M. Mechanical Drawing and Field Work.
P. M. Free Hand Drawing.	

THIRD YEAR.

First Term.	*Second Term.*
Chemistry.	Chemistry.
Physics.	Zoology and Entomology.
German.	German.
American Literature.	P. M. Laboratory Work.
P. M. Laboratory Work.	

FOURTH YEAR.

First Term.	*Second Term.*
Chemistry.	Chemistry.
Comparative Anatomy.	Mineralogy and Geology.
History of Civilization.	U. S. Constitution and Political Economy.
Logic.	P. M. Laboratory Work.
P. M. Laboratory Work.	

EXPLANATORY STATEMENTS.

This course aims to supply a want felt by some students who wish to enter certain industries in which a somewhat extensive knowledge of Chemistry is important. The first two years are mainly like those of the other course; Qualitative Analysis being, however, obligatory for these students in the second term of the Sophomore year.

During the Junior year, daily recitations are held in Agricultural Chemistry and elementary Organic Chemistry, and the study of advanced Inorganic Chemistry is begun. In the Senior year advanced Inorganic Chemistry is concluded and advanced Organic Chemistry taken up.

The afternoons are devoted to Quantitative Chemical Analysis by the Junior and Senior students of the course. The work consists of the most useful gravimetric and volumetric methods, beginning with simple estimations which are followed by more complex analysis of alloys, minerals, fertilizers, farm products, &c. A short course in the assay of gold and silver is also given.

The class-room text-books used by this department are: Roscoe's "Lessons in Elementary Chemistry," Johnson's "How Crops Grow, "How Crops Feed" and Naquet's "Principes de Chimie" in two volumes. In the laboratory are used: Craft's "Qualitative Chemical Analysis," Fresenius' "Quantitative Chemical Analysis, Caldwell's "Agricultural Chemical Analysis," Wöhler's "Mineral Analysis," J. A. Wanklyn's "Milk Analysis, Flint's "Examination of Urine.

Some valuable books of reference are found in the library.

The students after passing all the required examinations and presenting satisfactory theses upon some chemical subject, graduate with the degree of Bachelor of Science.

TABLE OF HOURS--FIRST TERM.

TIME.	SENIORS.	JUNIORS.	SOPHOMORES.	FRESHMEN.
8 A. M...	History of Civilization, I, IV, V. Civil Engineering, II.	Agricultural Engineering, &c., I. American Literature, IV, V. Calculus, II, III.	General Chemistry.	Physiology.
9 A. M...	Landscape Gardening, Stock Breeding and Veterinary Science, I, V. Prime Movers, III. Stereotomy, II. Chemistry, IV.	German, I, II, III, IV, V.	Trigonometry.	
10 A. M..	Logic, I, II, III, IV, V.	Agricultural Chemistry, I, IV, V. Machinery and Millwork, III.	Botany, Horticulture and Arboriculture.	Physical Geography.
11 A. M..	Comparative Anatomy, I, IV, V. Practical Astronomy, II, III.	Mechanical Cultivation of Soil, and Farm Drainage, I, V. Physics, I, II, III, IV, V. Field Book, II.	French.	Algebra.
P. M.....	Experimental Farming and Agricultural Botany, I. Historical Readings and Analysis, V. Applied Desc. Geometry and Machine Drawing, III. Topography and R. R. work, II. Laboratory work, IV. Military Drill.	Laboratory work, I, IV. Analysis of American authors, V. Field work and Drawing, II. Shop-work and Machine Drawing, III. Military Drill.	Free-hand Drawing. Military Drill.	Labor on Farm. Military Drill.

NOTE.—Roman numerals refer to courses as follows: I, Agriculture; II, Civil Eng.; III, Mech. Eng.; IV, Chemistry; V, Science and Lit.

TABLE OF HOURS--SECOND TERM.

TIME.	SENIORS.	JUNIORS.	SOPHOMORES.	FRESHMEN.
8 A. M...	U. S. Constitution and Political Economy, I, II, III, IV, V.	Descriptive Astronomy, II, III. Zoology and Entomology, I, IV, V. Machinery and Millwork, III.	English Literature and Surveying, History of England (L).	Rhetoric and Botany.
9 A. M...	Mental and Moral Science, I, V. Civil Engineering, II.	Zoology and Entomology, I, IV, V. Descriptive Geometry, II, III.	Qualitative Analysis, I, IV, V.	French.
10 A. M..	Cultivation of Cereals, care and feeding of animals, &c., I, V. Steam Engine, III.	German, I, II, III, IV, V.	Qualitative Analysis, I, IV, V. Analytical Geometry, &c., II, III.	
11 A. M..	Mineralogy and Geology, I, II, III, IV, V.	Organic Chemistry and I inciples of Plant Feeding, I, IV, V. Mechanics, II.	Physics.	Algebra and Geometry.
P. M.....	Machine Drawing and Designing, II, III. Laboratory work, IV. Chemistry, IV. Military Drill.	Chemistry and Experimental Farming, I. Analysis of English Authors, V. Isometric and Cabinet Projection, and Perspective, II, III Laboratory work, IV. Military Drill.	Mechanical Drawing and Field work. Forge work, III. Military Drill.	Book-keeping and Labor. Military Drill.

LABOR.

It is a peculiarity of the college, that it makes provision for labor, thus combining practice with theory, manual labor with scientific culture.

The maximum time of required labor is three hours a day for five days in the week.

In the lowest class the students are required to work on the farm, and they receive compensation for their labor according to their industry, faithfulness and efficiency, the educational character of the labor being also taken into account. The maximum price paid is ten cents an hour. The labor is designed to be as much as possible educational, so that every student may become familiar with all the forms of labor upon the farm and in the garden.

The students of the three upper classes carry on their principal labor in the laboratory, the drawing rooms, the work shops, or in the field, and for it, they receive no pecuniary consideration, since this labor is of a purely educational character.

MILITARY INSTRUCTION.

Thorough instruction is given in Military Science by a competent officer. It extends through the whole college course; the Freshman, Sophomore and Junior classes receiving instruction in infantry tactics, and the Senior class, in artillery drill.

In the choice of artillery officers, preference is given to those who have drilled in the infantry as privates and non-commissioned officers.

Arms are furnished by the State. The uniform is navy-blue yacht cloth, sack coat and pants, without brass buttons or trimmings that attract attention, and is required to be worn during the military exercises.

LOCATION.

The college has a pleasant and healthful location, between the villages of Orono and Stillwater, about a mile from each. Stillwater river, a tributary of the Penobscot, flows in front of the buildings, forming the western boundary of the college farm, and adding much to the beauty of the surrounding scenery.

The European and North American Railway, over which trains pass several times each day, has a station at the village of Orono. The college is within nine miles of the city of Bangor, and is consequently easily accessible from all parts of the State.

FARM AND BUILDINGS.

The college farm contains three hundred and seventy acres of land of high natural productiveness, and of great diversity of soil, and is therefore well adapted to the experimental purposes of the institution.

White Hall, the building first erected, affords excellent accommodations for a limited number of students. The lower rooms of this building are appropriated to general and class purposes.

Brick Hall contains forty-eight rooms, and has connected with it a boarding house for students. With these buildings, the institution furnishes desirable accommodations for one hundred and twenty-five students.

The Laboratory contains two apparatus rooms, a lecture room, a cabinet, a library and weighing room, a recitation room, and rooms for analytical and other purposes, and is in all respects admirably adapted to the wants of the chemical and mineralogical departments.

APPARATUS.

The college is furnished with new and valuable apparatus for the departments of Physical Geography, Chemistry, Physics, Surveying, Civil Engineering and Mechanical Engineering, to which additions will be made as the exigencies of the several departments require. Models have been obtained from the United States Patent Office, and others have been purchased, that serve for purposes of instruction.

LIBRARY.

The library already contains 3,949 volumes, some of which have been obtained by purchase, while others have been kindly given to the college. The volumes secured through the liberality of Governor Coburn, and the gifts of other friends, are a valuable addition to this department. It is earnestly hoped that so important an auxiliary in the education of students in the college will not be disregarded by the people of the State, and that liberal contributions will be made to the library, not only of agricultural and scientific works, but also of those profitable to the general reader.

READING ROOM.

The reading room is supplied with a number of valuable newspapers and periodicals. Grateful acknowledgement is herewith made for the following papers, generously sent by the proprietors to the college:

American Cultivator, American Sentinel, Bangor Weekly Courier, Aroostook Valley Sunrise, Camden Journal, Dexter Gazette, Eastern Argus, Eastport Sentinel, Gospel Banner, Kennebec Journal, Maine Farmer, Maine Standard, New England Farmer, North Star, Official Gazette, U. S. Patent Office, Oxford Democrat, Piscataquis Observer, Somerset Reporter, Zion's Herald, Bangor Daily Whig and Courier, The New Religion, Portland Transcript.

The following are furnished by subscription:

American Agriculturist, American Naturalist, American Journal of Science and Art, American Architect and Builder, Appleton's Journal, Atlantic Monthly, Boston Journal of Chemistry, Engineering Magazine, Gardeners' Monthly, Harper's Monthly, Harper's Weekly, International Review, Journal Royal Agricultural Society, England, Journal Franklin Institute, Lippincott's Magazine, Leslie's Illustrated News, Popular Science Monthly, Live Stock Journal, Scribner's Monthly, Springfield Republican, Agricultural Gazette, Burlington Hawkeye, Chicago Inter-Ocean, Railroad Gazette, Boston Daily Journal, Fairfield Chronicle, New York Tribune, Land and Home.

CABINET.

Rooms have been fitted up with cases of minerals, and specimens of natural history, and several hundred specimens have been presented to the college. The valuable private cabinets of Prof. C. H. Fernald and Ex-President C. F. Allen are placed in these rooms, and are accessible to the students. All specimens presented will be properly credited and placed on exhibition. Rocks illustrating the different geological formations, and minerals found within the State, are particularly solicited.

PUBLIC WORSHIP.

All students are required to attend daily prayers at the college, and public worship on the Sabbath at some one of the neighboring churches, unless excused by the President.

EXPENSES.

Tuition is free to students residing within the State. Those from other States are charged the nominal sum of twelve dollars per term. Rooms are free to students who board in the college dining hall.

Bedding and furniture must be supplied by the students, who also furnish their own lights. Tables, chairs, bedsteads, sinks and husk mattresses can be purchased at the college at moderate rates.

The price of board is two dollars and sixty cents per week; washing averages not more than sixty cents a dozen.

The warming by steam of single rooms, (each suitable for two occupants) has averaged for the past three years about ten dollars a room for each term. The expense of heating recitation rooms and rooms for general purposes has been about two dollars a term for each student and the incidental expenses including pay for the services of janitor, pay for bringing mail, for cleaning and renovating rooms, for general repairs, &c., have been less than three dollars per term for each student.

From the items given, with an allowance of a few dollars a year for necessary text-books, quite an accurate estimate of needful expenses can be made.

The college term-bills are payable, one-half at the commencement and the remainder at or before the close of each term.

MEANS OF DEFRAYING EXPENSES.

The terms are so arranged that the long vacation occurs in the winter, that students may have an opportunity to teach during that time. The summer vacation is in the haying season, when farm labor is most profitable. By availing themselves of the opportunities thus afforded, together with the allowance for labor on the college farm, industrious and economical students can cancel the greater part of their college expenses.

GRADUATES.

CLASS OF 1872.

NAME AND OCCUPATION.	RESIDENCE.
Benjamin F. Gould, C. E., Farmer	San Juan, California
George E. Hammond, C. E., Civil Engineer	Elliot
Heddle Hilliard, C. E., Civil Engineer	Grand Southern R. R., N. B
Edwin J. Haskell, B. S., Silk Manufacturer	Saccarappa
Eber D. Thomas, B. S., Civil Engineer	Grand Rapids, Mich
George O. Weston, B. S., Farmer	Norridgewock

CLASS OF 1873.

Russell W. Eaton, C. E., Cotton Mill Engineer	Providence, R. I
George H. Hamlin, C. E., Professor	State College, Orono
Fred W. Holt, C. E., Civil Engineer	G. S. R. R., St. George, N. B
Charles E. Reed, C. E., Assistant Editor Free Press	Detroit, Mich
John M. Oak, B. S., Merchant	Garland
Frank Lamson Scribner, B. S., Tutor	Girard College, Philadelphia
Harvey B. Thayer, B. S., Druggist	Monson

CLASS OF 1874.

William A. Allen, C. E., Civil Engineer, M. C. R. R	Portland
Walter Balentine, B. S., Student Agricultural Chemistry	Halle, Germany
William H. Gerrish, B. S., M D	Germany
John I. Gurney, B. S., Farmer	Dorchester, Mass
David R. Hunter, B. S., Teacher	Oakland, Cal
Louise H. Ramsdell, B. S., (Mrs. Milton D. Noyes)	Atkinson

CLASS OF 1875.

Solomon W. Bates, C. E., Civil Engineer	Waterville
Wilbur A. Bumps, C. E., M. D., Physician	Dexter
Samuel H. Clapp, C. E., Civil Engineer	Damariscotta
Lewis F. Coburn, C. E., Teacher	Crescent City, Del
Charles F. Durham, C. E., Teacher	Crescent City, Del
Edson F. Hitchings, C. E., Draughtsman	Waterville
Allen G. Mitchell, C. E., Civil Engineer	Madison
George M. Shaw, C. E., Principal of Schools	Oraville, Cal

NAME AND OCCUPATION.	RESIDENCE.
*Edgar A. Work, C. E.	U. S. Military Academy
Edward D. Mayo, M. E., Draughtsman	Minneapolis, Minn
Albert E. Mitchell, M. E., Mechanical Engineer	Altoona, Penn
Minott W. Sewall, M. E., Mechanical Engineer	Wilmington, Del
Charles W. Colesworthy, B. S., Teacher	California
Alfred M. Goodale, B. S., Machinist	Lewiston
Whitman H. Jordan, B. S., Instructor	State College, Orono
*Fred W. Moore, B. S., Teacher	California
Luther W. Rogers, B. S., Merchant	Waterville
Wesley Webb, B. S., Farmer	South Freeport

CLASS OF 1876.

Edmund Abbott, B. S., M. D., Physician	Winterport
Charles P. Allen, B. S., Lawyer	Presque Isle
Eldridge H. Beckler, C. E., Civil Engineer	Empire City, Mich
Fred M. Bisbee, C. E., Mining Engineer	Cannon City, Col
Edward M. Blanding, B. S., City Editor, Daily Commercial	Bangor
Charles M. Brainard, B. S., Lumberman	Skowhegan
George H. Buker, B. S., Apothecary	Presque Isle
Florence H. Cowan, B. S., Traveling Agent	Orono
Oliver Crosby, M. E., Foreman of Machine Shop	St. Paul, Minn
Vetal Cyr, B. S., Principal of Madawaska Training School	Fort Kent
James E. Dike, C. E., Clerk of Water Board	Kansas City
Willis O. Dike, B. S., Farmer	Sebago
Horace M. Estabrooke, B. S., Teacher	Pembroke
Arthur M. Farrington, B. S., Veterinary Surgeon	33 West 27th St., N. Y
George O. Foss, C. E., Engineer	Red Wing, Minn
William T. Haines, B. S., Lawyer	West Waterville
Henry F. Hamilton, B. S., D. D. S., Dentist,	124 Commonwealth Avenue, Boston
Newall P. Haskell, B. S.,	New Gloucester
Edward S. How, M. E., Book-keeper	Portland
Philip W. Hubbard, B. S., Apothecary	Farmington
Samuel M. Jones, M. E., Engineer,	Corliss Engine Works, Providence, R. I
Albert M. Lewis, B. S., Teacher	Stillwater
Herbert A. Long, M. E., Farmer	Bluehill
Luther R. Lothrop, C. E., Surveyor	Red Wing, Minn
Nelson H. Martin, B. S., Teacher	Fort Fairfield
Charles E. Oak, M. E., Surveyor	Caribou
George D. Parks, C. E., Law Student	Richmond
Hayward Peirce, B. S.	West Waldo Granite Works, Frankfort
Frank R. Reed, C. E., Carpenter	Roxbury
Henry J. Reynolds, B. S., Druggist	Machias
Charles W. Rogers, M. E., Machinist	Charlestown, Mass

*Deceased.

NAME AND OCCUPATION.	RESIDENCE.
William L. Stevens, M. E., Agent of Flouring Mills	Minneapolis, Minn
John H. Williams, B. S., Teacher	Milo

CLASS OF 1877.

Alvah D. Blackington, C. E., City Engineer	Rockland
Robert B. Burns, B. C. E., Superintendent of Schools	Fort Fairfield
Eugene H. Dakin, B. S., Apothecary	Bangor
Edward F. Danforth, B. S., Lawyer	Skowhegan
Augustus J. Elkins, B. M. E., Draughtsman and Scaler	Oldtown
Alicia T. Emery, B. S., Teacher	Orono
Samuel W. Gould, B. S., Lawyer	Cornish
Joseph C. Lunt, B. C. E., Merchant	Fairfield
Fred F. Phillips, B. S., Law Student	Bangor
Samuel Shaw, B. M. E., Machinist	Augusta
Frank P. Stone, B. S., Farmer	Livermore Falls
Thomas J. Stevens, B. M. E., Apothecary	Auburn
George E. Sturgis, B. C. E., Apothecary	Oregon
Charles E. Towne, B. C. E., Teacher	Helena, Montana
James W. Weeks, B. M. E., Draughtsman	Cedar Rapids, Iowa
Nellie E. Weeks, B. S., Teacher	Orono
Ivan E. Webster, B. S., Lumberman	Orono

CLASS OF 1878.

Emma Brown, B. S., Teacher	Orono
A. J. Caldwell, B. M. E., Draughtsman	Brooklyn, N. Y
C. C. Chamberlain, B. S., Druggist,	Genesee, Ill
G. C. Fernald, B. C. E., Teacher	Elliot
James Heald, B. S.,	Minneapolis, Minn
John Locke, B. S.	Maine Central R. R., Portland
F. J. Oakes, B. C. E., Clerk	Boston, Mass
J. C. Patterson, B. C. E., Civil Engineer,	Minnesota & St. Louis R. R., Minneapolis, Minn
W. E. Tripp, B. C. E., Law Student	Biddeford
E. C. Walker, B. S., Law Student	Lovell
O. C. Webster, B. S., Farmer	Augusta

CLASS OF 1879.

Harry P. Bean, B. C. E.	Bangor
Edward J. Blake, B. C. E., Civil Engineer, C. B. & Q.	R. R. Burlington, Iowa
Simon P. Crosby, B. S., Law Student	Dexter
John D. Cutler, B. S., Medical Student	University of the City of New York
Wilbur F. Decker, B. M. E., Instructor in Vise Work,	State College, Orono

Name and Occupation.	Residence.
David A. Decrow, B. C. E., Civil Engineer	Lockport, N. Y
Willis E. Ferguson, B. S., Farmer	Bangor
Charles W. Gibbs, B. C. E., Farmer	Glenburn
Annie M. Gould, B. S., Teacher	Stillwater
Nellie M. Holt, B. S., Teacher	Orono
Frank E. Kidder, B. C. E., Instructor	State College, Orono
Mark D. Libby, B. C. E.	Riverside
Charles S. Loring, B. M. E.	Winthrop
George P. Merrill, B. S., Assistant in Chemistry,	Wesleyan University, Middletown, Conn
Arthur L. Moore, B. S., Farmer	Limerick
Charles A. Morse, B. C. E.	Bangor
Fred D. Potter, B. M, E., Farmer	Waldoboro
Alton J. Shaw, B. M. E., Draughtsman	Lewiston
Percia A. Vinal, B. S., Teacher	Orono
George O. Warren, B. S., Farmer	Fryeburg
Herbert Webster, B. S.	Orono

OFFICERS

OF THE

ASSOCIATE ALUMNI.

President.

EDWARD M. BLANDING, Bangor.

Vice President.

EDWARD F. DANFORTH, Skowhegan.

Recording Secretary.

EDSON F. HITCHINGS, Waterville.

Corresponding Secretary.

WILBUR A. BUMPS, Dexter.

Treasurer.

PHILIP W. HUBBARD, Farmington.

Class Secretaries.

1872. E. J. HASKELL, Saccarappa.

1873. J. M. OAK, Garland.

1874. W. BALENTINE, Halle, Germany.

1875. W. A. BUMPS, Dexter.

1875. H. F. HAMILTON,
124 Commonwealth Avenue, Boston, Mass

1877. S. W. GOULD, Cornish.

1878. JOHN LOCKE, Jr., Portland.

1879. F. E. KIDDER, Bangor.

CALENDAR.

1880—Feb. 11.	Tuesday, Second Term commences.
June 24, 25.	Thursday and Friday, Examinations.
" 26.	Saturday, Prize Declamation by Sophomores.
" 27.	Sunday, Baccalaureate Address.
" 28.	Monday, Prize Essays by Juniors.
" 30.	Wednesday, Commencement.
July 1.	Thursday, Examination of Candidates for Admission.
	Vacation of five weeks.
Aug. 10.	Tuesday, Examination of Candidates for Admission.
	First Term commences.
Nov. 22, 23.	Monday and Tuesday, Examinations.
	Vacation of eleven weeks.
1881—Feb. 8.	Tuesday, Second Term commences.